

## CLAIMS

1 1. A system for delivering real-time costing information, comprising:  
2 a database adapted to store content, the content comprising:  
3 a harmonized system (HS) module for storing information describing a  
4 country's HS tree, the HS tree having a hierarchy of nodes in  
5 which goods can be classified; and  
6 a tariffs module for storing information describing tariffs applicable to  
7 goods classified in nodes of the HS tree; and  
8 a knowledge base in communication with the database, the knowledge base  
9 adapted to provide an application programming interface (API) for  
10 receiving a query requesting costing information, executing the query  
11 on the content in the database, and generating the requested costing  
12 information in response thereto.

1 2. The system of claim 1, wherein the knowledge base is adapted to receive  
2 via the API information pertaining to the query that is not known in advance and wherein  
3 the knowledge base utilizes the received information to generate the requested costing  
4 information.

1 3. The system of claim 1, wherein the knowledge base is adapted to receive  
2 via the API information pertaining to the query that overrides content stored in the  
3 database and wherein the knowledge base utilizes the received information to generate  
4 the requested costing information.

1 4. The system of claim 1, wherein the knowledge base comprises:  
2 a data subscription module for initiating a transfer of content from an external  
3 source to the database.

1           5.     The system of claim 4, wherein the database further comprises:  
2                 a subscriber module adapted to receive one or more datapacks from the  
3                 external source responsive to the transfer initiated by the data  
4                 subscription module and further adapted to apply content in the  
5                 datapacks to the knowledge base and/or database responsive to  
6                 instructions in the datapacks.

1           6.     The system of claim 5, wherein each datapack further comprises  
2     information for authenticating the datapack and wherein the subscriber module is further  
3     adapted to utilize this information to authenticate the datapack.

1           7.     The system of claim 1, further comprising:  
2                 an applications server in communication with the knowledge base and adapted  
3                 to execute one or more applications for generating the query against  
4                 the content in the database and transmit the query to the knowledge  
5                 base via the API.

1           8.     The system of claim 7, wherein the applications server is remote from the  
2     knowledge base and database.

1           9.     The system of claim 7, wherein the applications server is local to the  
2     knowledge base and database.

1           10.    The system of claim 7, wherein the applications server is adapted to  
2     execute an application for identifying documentation utilized in a shipment of goods  
3     responsive to the content in the database.

1           11.    The system of claim 7, wherein the applications server is adapted to  
2     execute an application for performing duty engineering responsive to the content in the  
3     database.

1           12.    The system of claim 1, further comprising:

2                   a knowledge workbench in communication with the knowledge base and  
3                   adapted to execute one or more applications for modifying content in  
4                   the database.

1           13.    The system of claim 12, wherein the knowledge workbench is remote from  
2   the knowledge base and database.

1           14.    The system of claim 12, wherein the knowledge workbench is local to the  
2   knowledge base and database.

1           15.    The system of claim 12, wherein the knowledge workbench comprises:  
2                   a catalog harmonizer for harmonizing goods according to the HS tree in the  
3                   HS module in the database and storing content representative of the  
4                   harmonization in the database.

1           16.    The system of claim 12, wherein the content in the database includes a  
2   compliance module for storing information related to legal compliance and wherein the  
3   knowledge workbench comprises:  
4                   an editor module for modifying the information related to legal compliance  
5                   stored in the compliance module in the database.

1           17.    The system of claim 12, wherein the knowledge workbench comprises:  
2                   a rules editor module for providing custom rules affecting the operation of the  
3                   system to the database, wherein the knowledge base is adapted to  
4                   execute the query on the custom rules.

1           18.    The system of claim 1, wherein the knowledge base comprises:  
2                   a classification module for accepting data representative of a good and for  
3                   classifying the good in at least one node of the HS tree.

1           19.    The system of claim 18, wherein the classification module is adapted to  
2   output a plurality of nodes in which the good can be classified.

1           20.    The system of claim 19, wherein the plurality of nodes output by the  
2   classification module are ranked in order of likelihood that a particular node is an  
3   accurate classification of the good.

1           21.    The system of claim 18, wherein the classification module is adapted to  
2   output a partial classification of the good in the HS tree.

1           22.    The system of claim 18, wherein the classification module is adapted to  
2   utilize a textual description of the good to classify the good in at least one node of the HS  
3   tree.

1           23.    The system of claim 18, wherein the classification module is adapted to  
2   utilize classification rules stored in the database to classify the good in at least one node  
3   of the HS tree.

1           24.    The system of claim 1, wherein the database content comprises rules, and  
2   wherein the knowledge base comprises:  
3                a rules module adapted to execute the rules in the database responsive to the  
4                query received via the API in order to generate the costing information.

1           25.    The system of claim 24, wherein the rules comprise Prolog code.

1           26.    The system of claim 1, wherein the knowledge base further comprises:  
2                a landed-cost generation module for generating a landed-cost estimate  
3                responsive to a query identifying a shipment of a good and the content  
4                in the database.

1           27.     The system of claim 26, wherein the landed-cost generation module is  
2 adapted to estimate the landed cost responsive to the good's classification in the HS tree  
3 and the tariff associated with the good's classification.

1           28.     The system of 27, wherein the landed-cost generation module is further  
2 adapted to estimate the landed cost responsive to freight rate information stored in the  
3 database and describing rates for the shipment of the good.

1           29.     A method of delivering real-time costing information, comprising the steps  
2 of:

3                 storing content in a database, the content comprising:

4                     a harmonized system (HS) module for storing information describing a  
5                         country's HS tree, the HS tree having a hierarchy of nodes in  
6                         which goods can be classified; and

7                     a tariffs module for storing information describing tariffs applicable to  
8                         goods classified in nodes of the HS tree; and

9                 providing an application programming interface (API) for receiving a query  
10                     requesting costing information;

11                 responsive to receiving a query via the API, executing the query on the content  
12                     in the database to generate the requested costing information; and

13                 responsive to executing the query, providing the requested costing  
14                     information.

1           30.     The method of claim 29, wherein the API is adapted to receive  
2 information pertaining to the query that is not known in advance and the wherein  
3 requested costing information is generated responsive to the information pertaining to the  
4 query that is not known in advance.

1           31.     The method of claim 29, wherein the API is adapted to receive  
2 information pertaining to the query that overrides content stored in the database and

wherein the requested costing information is generated responsive to the overriding information.

32. The method of claim 29, wherein the storing step comprises the step of: initiating a transfer of content from an external source to the database.

33. The method of claim 32, wherein the storing step further comprises: receiving one or more datapacks from the external source responsive to the initiated transfer, each datapack comprising content and instructions for applying the content to the database; and applying the content in the datapacks to the knowledge base and/or database responsive to the instructions in the datapacks.

34. The method of claim 29, wherein the content in the database further comprises: a module for storing custom rules that are selectively applied responsive to the execution of the query on the content in the database.

35. The method of claim 29, further comprising the steps of: receiving data representative of a good; classifying the good in at least one node of the HS tree; and storing data representative of the good's classification in the database.

36. The method of claim 35, wherein the classifying step further comprising the steps of: identifying a plurality of nodes in which the good can be classified; and receiving data representative of a selection of one or more of the plurality of nodes in which the good is to be classified.

1           37.    The method of claim 36, wherein the step of identifying a plurality of  
2 nodes comprises the step of:  
3                ranking the plurality of nodes in order of likelihood that a particular node is an  
4                accurate classification of the good.

1           38.    The method of claim 35, wherein the classifying step comprises the step  
2 of:  
3                identifying a partial classification for the good in the HS tree.

1           39.    The method of claim 35, wherein the classifying step comprises the step  
2 of:  
3                classifying the good responsive to a textual description of the good.

1           40.    The method of claim 35, wherein the classifying step comprises the step  
2 of:  
3                classifying the good responsive to classification rules stored in the database.

1           41.    The method of claim 29, wherein the content in the database includes rules  
2 for interpreting other content in the database, and wherein the step of executing the query  
3 on the content in the database comprises the step of:  
4                executing the rules in the database responsive to the query received via the  
5                API in order to generate the costing information.

1           42.    The method of claim 41, wherein the rules comprise Prolog code.

1           43.    The method of claim 29, wherein the query identifies a shipment of a good  
2 and the step of executing the query on the content in the database comprises the step of:  
3                generating a landed-cost estimate responsive to the query.

1           44.    The method of claim 43, wherein the step of generating the landed-cost  
2 estimate comprises the step of:

3                estimating the landed cost responsive to the good's classification in the HS  
4                tree and the tariff associated with the good's classification.

1           45.    The method of claim 44, wherein the estimating step further comprises the  
2 step of:

3                estimating the landed cost responsive to the good's classification in the HS  
4                tree, the tariff associated with the good's classification, and freight rate  
5                information stored in the database describing rates for the shipment of  
6                the good.

1           46.    A computer program product comprising:

2                a computer-readable medium having computer program code embodied  
3                therein for enabling delivery of real-time costing information, the  
4                computer program code comprising:

5                a database module adapted to store content, the content comprising:

6                    a harmonized system (HS) module for storing information describing a  
7                    country's HS tree, the HS tree having a hierarchy of nodes in  
8                    which goods can be classified; and

9                    a tariffs module for storing information describing tariffs applicable to  
10                   goods classified in nodes of the HS tree; and

11               a knowledge base module in communication with the database module, the

12               knowledge base module adapted to provide an application

13               programming interface (API) for receiving a query requesting costing  
14               information, executing the query on the content in the database

15               module, and generating the requested costing information in response  
16               thereto.



1           47.     The computer program product of claim 46, wherein the knowledge base  
2 module is adapted to receive via the API information pertaining to the query that is not  
3 known in advance and wherein the knowledge base module utilizes the received  
4 information to generate the requested costing information.

1           48.     The computer program product of claim 46, wherein the knowledge base  
2 module is adapted to receive via the API information pertaining to the query that  
3 overrides content stored in the database module and wherein the knowledge base module  
4 utilizes the received information to generate the requested costing information.

1           49.     The computer program product of claim 46, wherein the knowledge base  
2 module comprises:  
3                 a data subscription module for initiating a transfer of content from an external  
4                 source to the database module.

1           50.     The computer program product of claim 49, wherein the database module  
2 further comprises:  
3                 a subscriber module adapted to receive one or more datapacks from the  
4                 external source responsive to the transfer initiated by the data  
5                 subscription module and further adapted to apply content in the  
6                 datapacks to the database and/or knowledge base responsive to  
7                 instructions in the datapacks.

1           51.     The computer program product of claim 50, wherein each datapack  
2 comprises information for authenticating the datapack and wherein the subscriber module  
3 is adapted to use this information to authenticate the datapack.

1           52.     The computer program product of claim 46, further comprising a module  
2 for identifying documentation utilized in a shipment of goods responsive to the content in  
3 the database module.

1           53.     The computer program product of claim 46, further comprising a module  
2     for performing duty engineering responsive to the content in the database module.

1           54.     The computer program product of claim 46, further comprising:  
2                 a catalog harmonization module for harmonizing goods according to the HS  
3                 tree in the HS module in the database module and for storing content  
4                 representative of the harmonization in the database module.

1           55.     The computer program product of claim 46, wherein the content in the  
2     database module further comprises:  
3                 a compliance module for storing information related to legal compliance of  
4                 potential shipments of goods.

1           56.     The computer program product of claim 46, wherein the content in the  
2     database module further comprises:  
3                 a custom rules module for storing custom rules affecting the generation of the  
4                 costing information;  
5                 wherein the knowledge base module is adapted to execute particular ones of  
6                 the custom rules responsive to the query received via the API.

1           57.     The computer program product of claim 46, wherein the knowledge base  
2     module comprises:  
3                 a classification module for accepting data representative of a good and for  
4                 classifying the good in at least one node of the HS tree.

1           58.     The computer program product of claim 46, wherein the classification  
2     module is adapted to output a plurality of nodes in which the good can be classified.

1           59.     The computer program product of claim 57, wherein the plurality of nodes  
2     output by the classification module are ranked in order of likelihood that a particular node  
3     is an accurate classification of the good.

1           60.     The computer program product of claim 57, wherein the classification  
2     module is adapted to output a partial classification of the good in the HS tree.

1           61.     The computer program product of claim 57, wherein the classification  
2     module is adapted to utilize a textual description of the good to classify the good in at  
3     least one node of the HS tree.

1           62.     The computer program product of claim 57, wherein the classification  
2     module is adapted to utilize classification rules stored in the database module to classify  
3     the good in at least one node of the HS tree.

1           63.     The computer program product of claim 46, wherein the content in the  
2     database module comprises rules, and wherein the knowledge base module comprises:  
3                 a rules module adapted to execute the rules in the database module responsive  
4                 to the query received via the API in order to generate the costing  
5                 information.

1           64.     The computer program product of claim 63, wherein the rules comprise  
2     Prolog code.

1           65.     The computer program product of claim 46, wherein the knowledge base  
2     module comprises:  
3                 a landed-cost generation module for generating a landed-cost estimate  
4                 responsive to a query identifying a shipment of a good and the content  
5                 in the database module.

1           66.     The computer program product of claim 65, wherein the landed-cost  
2     generation module is adapted to estimate the landed cost responsive to the good's  
3     classification in the HS tree and the tariff associated with the good's classification.

1           67.     The computer program product of 66, wherein the landed-cost generation  
2     module is further adapted to estimate the landed cost responsive to freight rate  
3     information stored in the database module and describing rates for the shipment of the  
4     good.

1           68.     A method of calculating costing information, comprising the steps of:  
2             storing, in a computer-readable database, content for generating costing  
3             information, the content comprising data describing potential costs and  
4             rules for interpreting the data;  
5             receiving data representative of a query requesting costing information;  
6             executing the rules and interpreting the data in the database responsive to the  
7             query to generate the requested costing information; and  
8             outputting the requested costing information.

1           69.     The method of claim 68, wherein the stored content comprises:  
2             data describing a country's harmonized system (HS) tree, the HS tree having a  
3             hierarchy of nodes in which goods can be classified; and  
4             data describing tariffs applicable to goods classified in particular nodes of the  
5             HS tree.

1           70.     The method of claim 69, wherein the stored content further comprises:  
2             data describing a plurality of goods, and the goods' classifications in the nodes  
3             of the HS tree.

1        71.    The method of claim 68, wherein the stored content further comprises:  
2            data describing freight rates for shipping goods and rules for interpreting the  
3            freight rates.

1        72.    The method of claim 68, wherein the stored content further comprises:  
2            compliance data adapted for use in evaluating legal compliance of received  
3            queries.

1        73.    The method of claim 68, wherein the step of receiving data representative  
2 of a query requesting costing information comprises the step of:  
3            receiving data describing a transaction to which the costing information  
4            pertains.

1        74.    The method of claim 73, wherein the step of receiving data representative  
2 of a query further comprises the step of:  
3            overriding at least a portion of the stored content with the received data  
4            describing the transaction to which the costing information pertains.

1        75.    The method of claim 68, wherein the step of executing the rules and  
2 interpreting the data responsive to the query to generate the costing information  
3 comprises the steps of:  
4            identifying a good involved in a transaction to which the costing information  
5            pertains;  
6            utilizing the stored content to determine a classification for the good in at least  
7            one country's harmonized system (HS) tree;  
8            utilizing the stored content to determine a tariff associated with the determined  
9            classification; and  
10          determining costing information responsive to the determined tariff.

1           76.    The method of claim 75, wherein the step of executing the rules and  
2 interpreting the data responsive to the query to generate the costing information further  
3 comprises the step of:  
4           determining a freight rate for shipping the good to a specified destination from  
5           the stored content;  
6           wherein the costing information is determined responsive to the determined  
7           tariff and freight rate.

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